

NEW SOUTH AMERICAN *GEOMETRIDAE*.

By LOUIS B. PROUT, F.E.S.

SUBFAM. OENOCHROMINAE.

1. *Ergavia burrowsi* spec. nov.

♂, 44–49 mm. Head olive-buff, the face irrorated with red \* and black; palpus black. Antenna dentate, the teeth at longest scarcely one-half the diameter of the shaft; ciliation and single bristles normal. Thorax and abdomen above olive-buff, the thorax in front strongly mixed with red, and slightly with black, the abdomen weakly tinged with red on posterior half of the segments and with diminutive red-and-black crests. Hindtibia with a single spur.

*Forewing* olive-buff, in places with slight dark irroration; a weak, very ill-defined reddish shade in the middle (about from  $R^3$  to  $M^2$  in their proximal half), traceable still more faintly to hindmargin; basal raised tuft fairly strong, red mixed with black; discal tuft strong but not very wide, predominantly black; three red, in places black-mixed, costal patches, the basal about 5 mm. long, the central bounded proximally by the antemedian line, distally by the postmedian, posteriorly by  $M$ , the third subapical, reaching  $SC^2$ ; some similarly coloured costal strigulation and irroration between the median and postmedian and beyond the distal patch; lines chiefly expressed by dark costal spots, the median spot rather elongate, a little beyond the cell-patch (generally nearer to the postmedian than to the antemedian), oblique inward; antemedian line somewhat excurved in anterior half of wing, marked by a dark dot or minute dash on  $M$ , then incurved but almost obsolete, except for dots on fold and  $SM^2$ ; median obsolete; postmedian exceedingly weak, sometimes obsolete, its course always indicated by small or minute vein-dots; extremely oblique outward to  $R^1$ , where it is 3–4 mm. from termen, incurved between radials, oblique inward to about three-fifths hindmargin, the dots on  $R^3$ ,  $M^1$ ,  $SM^2$ , and hindmargin nearly in alignment, an inward curve between  $M^1$  and  $SM^2$ ; subterminal line faintly paler, scarcely traceable except between radials and near tornus, where it crosses ill-defined reddish patches; termen with strong black dots; fringe traversed by some reddish mottling which suggests a thick, irregular line. —*Hindwing* with termen moderately strongly dentate, the tooth at  $R^2$  scarcely appreciable except in the fringe; olive-buff, the proximal half strongly, a band proximal to the subterminal more feebly, shaded with red and with some blackish strigulation or irroration; cell-mark white, rarely conspicuous; a rather strong, thick, wavy black line just beyond, from  $R^1$  to hindmargin and indicated on midcosta by a blackish spot; a less definite red, black-mixed line 1.5 mm. beyond and parallel with the preceding, expanding into more rust-coloured spots between  $R^1$  and  $R^3$  and especially between  $R^2$  and  $R^3$ ; postmedian line fine, blackish, marked with very strong black teeth on the veins, that on  $R^2$  generally elongate; a very fine pale distal edging to this line; termen with black dots.

\* None of the markings described as "red" are very bright—scarcely more than "liver-brown."

Underside reddish, clouded with grey in proximal half or sometimes more or less throughout (especially on hindwing), otherwise with grey irroration; costal margin of forewing rather lighter, with rather strong irroration; both wings with rather sharp black discal lunule and vague grey subterminal cloudings, corresponding to the reddish ones of upperside; terminal dots very weak or almost obsolete.

Calama, Rio Madeira, below Rio Machados, August—October 1907 (W. Hoffmanns). 7 ♂♂ in coll. Tring Museum.

The genitalia have been examined by my kind friend the Rev. C. R. N. Burrows, to whom I dedicate the species, and show a great difference from the following species in the form of the gnathos, the shorter, hairy uncus, and especially in the penis; the manica is strongly spined, the vesica without the characteristic cornuti of *piercei*.

## 2. *Ergavia piercei* spec. nov.

♂, 45–48 mm. Very similar to the preceding, distinguished as follows:

*Forewing* more uniformly shaded with reddish, at least in the median area, and as minute strigulae on the principal veins; costal patches scarcely noticeable, the basal sometimes wanting; costal spots equidistant or even with the median nearer to the antemedian; in well-marked specimens an additional line indicated (at least posteriorly) about 2 mm. proximal to the postmedian; terminal dots smaller.—*Hindwing* with the double line just beyond cell much weaker, greyish or reddish, never mixed with black, the outer not expanding into spots between the radials; postmedian slightly more distally placed, with minute dots (never long teeth or wedges) on the veins and nearly always with a deeper sinus inward between the radials.

Underside on an average paler than in *burrowsi*, with postmedian line well indicated; cell-mark of forewing sometimes shortened, that of hindwing generally wanting.

Calama, Rio Madeira, below Rio Machados, August—October 1907, 15 ♂♂, including the type; Allianea, below San Antonio, Rio Madeira, November—December 1907, 7 ♂♂; all in coll. Tring Museum, collected by W. Hoffmanns.

Dedicated to Mr. F. N. Pierce, to whom also I am deeply indebted for help in the investigation of Geometrid genitalia.

Vesica with seven strong, broad cornuti. It is right to mention that the specimen dissected was from Allianea, but there is no difference between the series from the two localities named.

## 3. *Ergavia endoeasta* spec. nov.

♂, 48 mm. Closely similar to the two preceding, especially to *piercei*, of which I should have supposed it a subspecies but that the antennal teeth are longer, nearly equalling the diameter of the shaft.

*Forewing* rather duller, very confusedly marked, the double postmedian, however, indicated by ill-defined spots rather than dots; cell-mark thin; pale subterminal line fairly distinct; termen with short black lunules in place of the dots.—*Hindwing* more weakly marked than in the allies; terminal lunules as on forewing.

Underside nearly as in weakly marked *piercei*, but with the discal streak of forewing sharply expressed.

San Esteban, N. Venezuela, June 1909 (S. M. Klages). Type in coll. Tring Museum.

*E. illineata* Warr., unknown to me and described from a single ♀ from French Guiana, probably belongs to this group and not to that of *roseivena* Prout (= *calvina* Warr., nec Druce), with which its author compares it. It may even be that one of my species will prove a race thereof, although as none of them has the discal tuft "red-brown" and the group is evidently rich in closely similar forms, this is by no means probable.

#### 4. *Ergavia venturii* spec. nov.

♂, 36 mm. In structure and markings akin to *brunnea* Schaus. Body and wings rather darker and duller.

*Forewing* rather narrower; a small areole present, as in *liraria* Guen.;  $R^2$  arising less near  $R^1$  than in the example of *brunnea* before me; the raised cell-tuft less developed; median area more heavily irrorated; postmedian line less acutely angled on  $R^1$ , less deeply incurved between this and  $R^2$ .

Ocampo, El Chaco, Argentina, January 1906 (Venturi). Type in coll. Tring Museum.

Superficially recalls *stigmara* Walk. even more than *brunnea* Schaus, except for the white cell-mark of hindwing.

### SUBFAM. HEMITHEINAE.

#### 5. *Racheospila rufoseriata* spec. nov.

♂, 31 mm. Face brown-red, the lower edge more rosy, a narrow oblique white-yellow band at each side separating the two shades. Palpus fully one-and-a-half times diameter of eye, third joint moderate, partly concealed by projecting hairs of second joint; white at base, upper part and end of second joint brown-red, third joint darker and duller. Vertex white; occiput green. Antenna white proximally, tinged with brown-red distally; pectinations about twice as long as diameter of shaft. Thorax and base of abdomen green above; abdomen with four white, red-edged dorsal spots, the first large, the second small and weak, the last two moderate. Foretibia and tarsus (the latter paler) brownish, spotted with white; hindtibial process reaching fully to the middle of the rather long first joint of tarsus.

Wings shaped as in *alboseriata* Warr., or very slightly broader.

*Forewing* with  $SC^1$  free or anastomosing slightly with C.  $R^1$  connate,  $M^1$  rather widely separate; light yellowish green; costal edge white, at proximal and apical extremities slightly underlined with red; antemedian brown-red dots on SC, M and  $SM^2$ , that on M farthest from base, close to origin of  $M^2$ ; a moderate brown-red cell-dot; a postmedian row of brown-red vein-dots, incurved posteriorly, that on  $M^2$  4 mm. distant from termen, slightly elongate; minuter white dots accompanying this series distally; a very fine red terminal line, very slightly interrupted at the veins; fringe pure white proximally, dirty white distally.—*Hindwing* with  $M^1$  rather widely separate; similar to forewing, the postmedian dots more elongate, especially on  $R^3$  and  $M^1$ .

Underside mostly whitish ; forewing in the costal region (except extreme edge) greener, base of costa somewhat mixed with reddish, a minute and rather weak cell-dot, terminal line chiefly developed in anterior part and extending round the apex as a costal dash between  $SC^3$  and  $SC^4$  ; fringe as above.

Huancabamba, Cerro de Paseo, E. Peru, 6,800 ft. Type in coll. L. B. Prout. Near *alboseriata* Warr., the pectinations and apparently the palpus shorter.

#### 6. *Racheospila variifrons* spec. nov.

♀, 28 mm. Face green below, red above. Palpus slender, over two-and-a-half times diameter of eye, third joint very long ; reddish above, pale beneath. Crown green, mixed with white between the antennae. Thorax and abdomen green above, whitish beneath.

*Forewing* shaped as in *bryata* Feld. or slightly narrower ;  $SC^1$  free, approaching C,  $R^1$  connate,  $M^1$  connate ; bright green, slightly more yellowish than in *bryata*, costal edge narrowly reddish ; lines very indistinct, rather thick, paler green ; antemedian from one-fifth costa, oblique outward to cell-fold, here and again at submedian fold angled outward ; postmedian from costa just before two-thirds, lunulate-dentate, receding from termen behind  $M^2$ , reaching hind-margin at about three-fifths ; a minute red, black-mixed cell-dot ; traces of a red terminal line at end near apex only ; fringe whitish yellow proximally, more grey-white distally.—*Hindwing* shaped as in *bryata*, or with termen even straighter ; cell very short,  $M^1$  stalked ; like forewing but without antemedian line.

Underside whitish green, unmarked ; costal region of forewing proximally with very slight reddish-smoky suffusion ; apical fringe of forewing darkened.

Parana, Entre Rios, Argentina. Type in coll. Tring Museum.

Misidentified by Warren as *bryata* Feld. (= *flavifimbria* Warr., syn. nov.), which is only known to me from Bogota ; in that species the face is wholly green, the vertex white, the antemedian line much straighter, the postmedian less recurved behind  $M^2$ .

#### 7. *Chloropteryx anisotena* spec. nov.

♂, 22–26 mm. ; ♀, 28–30 mm. Face dull reddish. Palpus in ♂ extending little beyond frons, with third joint short ; in ♀ with second joint reaching slightly beyond frons, third joint nearly as long as diameter of eye ; dark above, pale beneath. Vertex white ; occiput green. Antenna in ♂ on the outer side with serrate teeth ; on the inner side shortly pectinate, the branches nearly twice as long as diameter of shaft ; in ♀ almost simple on the outer side, very shortly pectinate on the inner, the branches about as long as diameter of shaft. Hindtibia of ♂ with strong hair-pencil and short terminal process. Thorax and abdomen concolorous with wings, abdomen with a dark, pale-erected dorsal patch.

*Forewing* dull grey-green, varying slightly in tone (from that of *pallescent* Warr. almost to that of *subrufescens* Warr.) ; costal edge ochreous, rather heavily dotted with black ; lines whitish, weak except on the veins, where they form rather larger, whiter dots ; antemedian deeply excurved in cell (almost reaching the dark grey-green cell-dot) and rather less deeply in submedian area ; postmedian from a little before two-thirds costa, forming anteriorly a gentle



outward curve, angulated inward at  $R^2$ , lobed outward at  $R^3-M^1$ , then receding to  $M^2$ , curving, falling almost vertically on hindmargin beyond two-thirds; terminal line black, interrupted by whitish dots at the veins; fringe ochreous whitish, with elongate blackish spots (dashes) opposite the veins.—*Hindwing* with abdominal margin long, tail rather strong; first line obsolete; cell-mark elongate; the rest as on forewing.

Underside whitish, slightly opalescent, the forewing and a small terminal area on hindwing towards apex with a rosy tinge; no distinct markings; terminal line and fringe as above, but both intensified at tornus of forewing and apical region of hindwing.

San Esteban, N. Venezuela, June—July 1909 (S. M. Klages). A good series in coll. Tring Museum. A single ♂ from Sapueay, Paraguay, October 1904 (W. Foster), was mixed by Warren with *pallescens* Warr. (see Nov. Zool. xvi. 76). True *pallescens* (from Oconeque, Carabaya) has normal bipectinate ♂ antenna, but is not, as was suggested, an aberration of *subrufescens* Warr., the ♂ lacking the hindtibial hair-pencil which is developed in that species.

#### SUBFAM. STERRHINAE.

##### *Semaepopus* H.-Sch.

*Semaepopus* H.-Sch., *Samml. Aussereur. Schmett.* i. (pt. 13-17. fig. 327. 1855. indescr.) pp. 25, 36 (1856).

*Cnemodes* Guen., *Spec. Gén. Léop.* x. 5 (1858).

*Issa* Walk., *Journ. Linn. Soc.* ix. 198 (1867).

*Dichromatopodia* Warr., *Nov. Zool.* ii. 94 (1895).

*Dysephyra* Warr., *Nov. Zool.* ii. 94 (1895).

*Heterephyra* Warr., *Nov. Zool.* ii. 95 (1895).

*Charommataea* Hulst., *Tr. Amer. Ent. Soc.* xxiii. 302 (1896).

*Xenostigma* Warr., *Nov. Zool.* vii. 165 (1900).

*Paradmeta* Warr., *Nov. Zool.* xiv. 221 (1907).

*Parazeuxis* Warr., *Nov. Zool.* xiv. 221 (1907).

*Dasycosymbia* Grossbeck, *Journ. N.Y. Ent. Soc.* xx. 283 (1912).

I cannot find any solid basis for generic separation of any of the above, which have mostly been founded on minor sexual characters or slight differences in shape or pattern. Possibly even *Trygodes* Guen. (*Spec. Gén. Léop.* ix. 426) will also have to be merged with them. The ♂ antennae show the finest intergradations from the heavily pectinated to almost simple, ciliated. The stalking of  $SC^2$  of the forewing, which would separate off *Dysephyra*, is usually (though not invariably) constant for individual species, but would in any case yield rather unnatural groupings, as it occurs not only in a sprinkling of species with the *Dysephyra*-*Heterephyra* facies (*justata* Walk., *rubida* Warr., *ella* Hulst—the type of *Charommataea*—etc.), but also in "*Parazeuxis*" *puntigera* Dogn., in *Semaepopus* *incolorata* Warr., *oenopodiata* Guen., and *trygodata* Warr. (Nov. Zool. xi. 36, as *Craspedia*).

##### 8. *Semaepopus semicaeca* spec. nov.

♂, 34-36 mm. Head and body mostly concolorous with wings; vertex and base of antenna darkened; palpus rather short, somewhat reddened on outer side, pale beneath. Antennal pectinations fine and rudimentary, surmounted by moderate tufts of cilia. Hindleg with strong pencil of hair from femoro-tibial joints and strong red and white tufts on tibia and tarsus.

*Forewing* with SC<sup>2</sup> from cell, R<sup>2</sup> from before middle of DC ; vinaceous buff, with very fine olive-grey irroration ; costal edge very finely rufous ; markings nearly as in *viridiplaga* Walk., but with the cell-spot sharp, not elongate, the median line not succeeded by a dark shade, sinuosities of postmedian rather less deep.—*Hindwing* with minute white, finely black-edged cell-spot ; median line farther beyond it than in *viridiplaga*, slightly curved or bent about M<sup>1</sup>.

Forewing beneath pale at base and especially along hindmargin ; costal edge proximally more broadly red than above ; cell-spot and the two lines beyond present. Hindwing beneath pale as far as the postmedian line ; costal edge tinged with red ; median line indicated anteriorly ; a small dark cell-dot and postmedian line present.

Calama, Rio Madeira, below Rio Machados, August—October 1907 (W. Hoffmanns). 6 ♂♂ in coll. Tring Museum.

#### 9. *Semaepus ladrilla flavicans* subsp. nov.

♂ ♀, 34–35 mm. Smaller than *l. ladrilla* Dogn. (*Ann. Soc. Ent. Belg.* xxxvii. 161 = *illimitata* Warr., Nov. Zool. vii. 156), and essentially different in the colour, both of body and wings, which is yellowish clay-colour above, buff beneath.

North Venezuela : San Esteban. Type ♀ and others in coll. Tring Museum. Also from Las Quiguas, in the same district (coll. Brit. Mus. et coll. L. B. Prout).

Without knowledge of the local conditions, it is useless to attempt to account for the occurrence of this modification of so widely distributed a species in so restricted an area, and we are perhaps dealing with a separate species ; but the agreement, except in size and colour, seems exact, and I have preferred to regard the distinction as racial only.

#### 10. *Semaepus euthyoria* spec. nov.

♂, 28 mm. Face mixed with black. Palpus blackish, beneath ochreous. Vertex and base of antenna strongly mixed with red ; antennal ciliation scarcely as long as diameter of shaft. Thorax and base of abdomen above concolorous with wings ; anal end and underside pale.

*Forewing* with apex rather blunt, termen curved, little oblique anteriorly ; SC<sup>2</sup> from cell ; saturn-orange (really orange with thick red irroration) ; costal edge narrowly dark fuscous or blackish ; lines dull dark reddish ; antemedian from beyond one-fourth costa to before one-third hindmargin, slender, gently curved ; median firm, only very slightly curved, well beyond cell-mark ; postmedian from within 3 mm. of apex to 1 mm. from tornus, rather slender, rather deeply lunulate-dentate, between the radials somewhat sinuate inward, the tooth outward at R<sup>2</sup> very slight, those at R<sup>3</sup> and M<sup>1</sup> rather approximated to the termen ; cell-dot small, white, finely red-ringed ; terminal line red, interrupted by orange-yellow dots at the veins, slightly thickened between ; fringe red, with a fine yellow line at base and an ill-defined one beyond middle.—*Hindwing* with termen full, rounded ; as forewing, but without antemedian line.

Underside paler yellowish, with hindmargin of forewing whitish ; the forewing mostly, the hindwing between postmedian line and termen and more

faintly in costal region, flushed with red; cell-dots greyish, not very sharp; median and postmedian lines well developed.

Calama, Rio Madeira, below Rio Machados, August—October 1907 (W. Hoffmanns). 2 ♂♂ in coll. Tring Museum.

Very distinct in the conspicuous, almost straight median line.

#### 11. *Semaeopus dorsionata* spec. nov.

♂, 28 mm. Face blackish, paler below. Palpus with third joint minute; red mixed with black, narrowly whitish beneath. Vertex and base of antennal shaft reddish; antennal ciliation even, about as long as diameter of shaft. Thorax and abdomen above deep salmon-buff, the second—fifth abdominal tergites each with a white, irregularly blackish-margined central spot; beneath pale. Hindleg short, the tibia and tarsus thickened, together little longer than the femur, whitish; a long pencil of buff hair from femoro-tibial joint, a whiter tuft from end of tibia above the tarsus, reaching the end of the latter.

Wings shaped as in the preceding species.

*Forewing* with SC<sup>2</sup> from cell; deep salmon-buff (buff with dense reddish irroration); lines not very sharply expressed; antemedian from one-fourth costa, oblique outward, angulated in cell, then straightish (slightly wavy) to one-third hindmargin; median and postmedian lunulate-dentate, parallel, about equidistant from one another, from the cell-mark and from the termen, somewhat bent outward (and with longer teeth—especially the postmedian) at R<sup>1</sup> and M<sup>1</sup>; cell-mark rather long and narrow, reddish; terminal dark line interrupted at the veins.—*Hindwing* with a few scattered black dots except in distal area; no antemedian line; cell-mark broken into two black spots, that on DC<sup>2</sup> the larger; distal half marked as on forewing.

Underside much paler, especially the posterior part of forewing and whole hindwing; markings feebly reproduced, the cell-mark of hindwing obsolescent but not interrupted.

Goyaz (town), January 1906 (G. A. Baer). Type in coll. Tring Museum.

#### 12. *Semaeopus luridata subrugosa* subsp. nov.

♂, 26 mm. Slightly shorter-winged than *I. luridata* Warr. (Nov. Zool. xiv. 219), from S.E. Peru. Above otherwise scarcely distinguishable, the outer line of the forewing not so deeply indented, the dark terminal blotch between the radials consequently less elongate proximally. Hindwing beneath, except a pale distal border of 2 mm. width, covered with rough orange-rufous scaling.

Calama, Rio Madeira, below Rio Machados, August—October 1907 (W. Hoffmanns). 2 ♂♂ in coll. Tring Museum.

#### 13. *Semaeopus hypoderis* spec. nov.

♂, 35 mm. Face and palpus rufous, mixed with blackish; palpus pale ochreous beneath, third joint quite short. Vertex cream-colour; occiput narrowly reddish. Antennal ciliation scarcely fasciculate, not longer than diameter of shaft. Patagia and base of tegula cream-colour, spotted with red; thorax and abdomen above otherwise mostly dull dark brown, with a slight olive

tinge, a few cream-coloured spots on metathorax and base of abdomen. Underside and legs pale, the foreleg reddened on inner side; hindtibia with strong tufts and a single spur; hindtarsus thickened, abbreviated, strongly tufted.

*Forewing* fairly broad, termen curved;  $SC^2$  from cell; cream-colour, with rufous irroration, but mostly occupied by the extended dark, olive-tinted brown markings; a costal spot and one or two irregular lines near base; a broad band (averaging nearly 4 mm.) before middle, its proximal edge oblique inward and somewhat sinuous, its distal touching the cell-mark, incurved behind cell, somewhat oblique outward to hindmargin beyond middle; a red subcostal spot in middle of this band; cell-mark elongate, of the ground-colour but dark-edged its proximal edge on  $DC^{2,3}$ , slightly incurved, its distal tridentate (on the radials); a broad (4–5 mm.) distal border, bounded proximally by a chain of whitish, rufous-edged spots, which is slightly incurved between the radials and outbent between  $R^3$  and  $M^1$ ; a moderately large subapical patch of the ground-colour bounded behind by  $R^1$  and a second (submarginal) from before  $M^1$  to behind  $M^2$ , each of these patches followed at distal margin by a pair of small spots; terminal line at these points rufous; fringe strongly dark-spotted.—*Hindwing* with termen subcrenulate,  $SC^2$  very shortly stalked; almost entirely dark-clouded, the ground-colour only showing in a very small basal patch and an elongate subternal one which crosses  $M^1$  and is accompanied at distal margin by three small pale spots; on the dark area stand two black discal dots, a strongly curved blackish central line and a very indistinct postmedian, edged distally by a few reddish scales, slightly sinuous anteriorly and forming a sharp outward angle behind  $R^3$ .

Both wings beneath buff-yellow, with weak rufous irroration, the dark markings chocolate, on forewing nearly as above, but with the proximal band fading out behind cell (the posterior region shiny pale grey), on hindwing confined to a subbasal patch and a broad terminal band from apex nearly to  $R^3$ ; both wings showing in addition well-developed crenulate median and postmedian lines, the former strongly outbent well beyond the cell.

La Oroya, Rio Inambari, S.E. Peru, 3,100 ft., December 1905, wet season (G. R. Ockenden). Type in coll. Tring Museum. Near *commaculata* Warr. (Nov. Zool. iv. 435).

#### 14. *Semaepopus catamompha* spec. nov.

♂, 27–28 mm. Much smaller and decidedly paler than the preceding. Face and palpus mostly pale. Thorax above not or scarcely darkened.

*Forewing* with the antemedian dark band narrower and ill-defined; cell-mark quite different, consisting of a pair of black dots, as on hindwing; a median line, strongly incurved, well beyond (as on underside); distal border narrower, interrupted at the medians, the whitish proximal spots before and behind  $M^1$  enlarged (especially the former), the subapical distal patch reaching  $R^3$ , consequently accompanied at termen by three pale spots.

Underside with the cloudings quite weak and restricted, the subbasal of hindwing virtually wanting.

Buenavista, E. Bolivia, 750 m., July–October 1906, type, August 1906—April 1907, paratype (Steinbach). In coll. Tring Museum.



15. *Semaepus geminilinea* spec. nov.

♂, 22–24 mm. Similar to *mitranaria* Walk. (*List Lep. Ins.* xx. 241).

*Forewing* darker, the irroration being much stronger and mixed, especially in anterior region, with grey; costal edge partly blackened; veins partly darkened; median line stronger, followed distally (at 5 mm.) by a second, similarly formed line; the oblique subapical line (from costa to termen at R<sup>3</sup>) accompanied distally by some grey shading.—*Hindwing* strongly shaded in middle with whitish pearl-grey; tornal patch of ground-colour much less sharply defined, being shaded—especially at tornus—with grey, the line which bounds it proximally rather strongly dentate.

Underside darker than in *mitranaria*, median line of hindwing much more proximally placed (close to cell-mark).

Calama, Rio Madeira, below Rio Machados, August–October 1907 (W. Hoffmanns). 2 ♂♂ in coll. Tring Museum. Also an old and damaged ♂ merely labelled “S. America.”

16. *Semaepus plumbeostrota* spec. nov.

*Heterophya plumbeostrota* Warr., MS.

♂ ♀, 27–30 mm. Larger than *geminilinea* Prout.

*Forewing* broader, with distal margin more strongly curved; markings similar, including the geminate median line; antemedian line angulated on M; cell-mark less oblique than in *mitranaria* and *geminilinea*; a similar mark within the cell; the space between these, together with the entire posterior half of wing from the antemedian to the postmedian line occupied by a violaceous-plumbeous suffusion; tornus and subapical band similarly suffused.—*Hindwing* without the whitish pearl-grey shading, thus coloured more as in *mitranaria*, but with the ill-defined distal area of *geminilinea*; distal edge of basal patch more curved than in either of the allies, tornal patch broader.

Aroewarwa Creek, Maroewym Valley, Surinam, April 1905, ♂ type, May 1905, ♀; San Esteban, Venezuela, June 1909, ♀; Fonte Boa, Amazonas, August 1906, ♀. All in coll. Tring Museum, collected by S. M. Klages. Also a ♀ from Rio Chucurras, Rio Palcazu, E. Peru, 320 m. (W. Hoffmanns) in the same collection.

17. *Semaepus exypna* spec. nov.

♂, 32 mm. Face black on upper half, pale fawn-colour on lower. Palpus with third joint very short; black, beneath pale fawn-colour. Antenna pectinate, the branches mostly over twice diameter of shaft. Thorax, abdomen, and legs fawn-colour; fore-femur and tibia blackened on inner side; hindleg with very long pencil of pale, slightly ochreous-mixed hair, reaching almost to end of tarsus, tibia and proximal part of tarsus dilated and thickly clothed, the slender exposed end of tarsus extremely short.

*Forewing* with termen waved, more oblique in posterior part than in anterior; SC<sup>2</sup> arising well before end of cell; fawn-colour, with very fine and inconspicuous darker irroration; antemedian and median lines rather weak, irregularly crenulate; antemedian oblique outward from beyond one-fourth costa, marked with a dark dot on crossing SC (at base of SC<sup>3</sup>), with a pronounced

double projection in cell, then oblique inward to about one-third hindmargin; median from nearly three-fourths costa to five-ninths hindmargin, slightly incurved between the radials and again between  $M^1$  and  $SM^2$ ; postmedian line blacker, near termen, exceedingly slender, deeply—though not acutely—dentate, the outward teeth (on the veins) slightly thickened, the inward (in the cellules) partly marked with black dots, especially those before  $R^1$  and before  $R^2$ , which are deeper than the others; cell-dot small, inconspicuous, brownish; terminal line very fine, brownish, marked with slightly elongate (or subtriangular) dots between the veins; fringe with minute dark dots opposite the veins.—*Hindwing* with termen crenulate, slightly toothed at  $R^2$ ; lines of forewing continued, the antemedian near the base, the median little beyond middle of wing; cell-spot rather large, black, white-pupilled.

Forewing beneath slightly smoky in proximal part, first line wanting; cell-spot grey, larger and more conspicuous than above; markings beyond it nearly as above. Hindwing beneath paler; first line wanting, median weak, the rest nearly as above.

Pozuzo, Huanuco, E. Peru. Type in coll. L. B. Prout.

#### 18. *Semaepus rubida orbistigma* subsp. nov.

♂, 34–38 mm. Larger than *r. rubida* Warr. (Nov. Zool. iv. 439), from Venezuela, strongly marked.

*Forewing* with the cell-mark enlarged into a round or broad-oval black ring, whitish grey in centre; postmedian line rather more bent, on both wings more strongly thickened at hindmargin.

Huancabamba, Cerro de Pasco, E. Peru (E. Boettger). Type and others in coll. Tring Museum; paratype in coll. L. B. Prout. Also from Cushi, prov. Huanuco; Santo Domingo, Carabaya; Chulumani, Bolivia.

#### 19. *Semaepus vestita* spec. nov.

♂ ♀, 30–32 mm. Face dull reddish, somewhat mixed with grey. Palpus dull reddish, beneath pale ochreous; third joint minute, darkened. Crown mostly yellow-whitish, narrowly red between antennae. Antennal joints in ♂ scarcely projecting; ciliation scarcely longer than diameter of shaft. Thorax and abdomen reddish above, more ochreous beneath. Hindleg in ♂ similarly clothed to that of *caecaria* Hb. (= *punctata* Stoll, nom. praeocc.).

*Forewing* with  $SC^2$  arising from stalk of  $SC^1$ ; vinaceous cinnamon, slightly shaded over in parts with olive-grey; lines grey, not very sharp; antemedian from just beyond one-fourth costa, rather oblique outward, curved in cell, then mainly vertical, but somewhat sinuous, to one-third hindmargin; median well beyond cell, bent outward at  $R^2$  (— $M^1$ ), rather strongly inbent in submedian area; postmedian from about three-fourths costa, dentate outward on the veins (the extremities of the teeth slightly thickened), incurved between  $M^2$  and  $SM^2$ , somewhat approaching termen at  $SM^2$ ; cell-dot small, white, with slight grey circumscription; termen with dark reddish dashes between the veins and minute pale dots at vein-ends; fringe with a very fine pale line at base.—*Hindwing* similar, with first line wanting, cell-dot rather more distinctly dark-edged.

Forewing beneath pale reddish, at costal margin brighter and more ochreous,

at hindmargin nearly to tornus whitish; markings of upperside (except first line) present, not strong. Hindwing beneath more yellowish, with costal edge brighter ochreous and distal area concolorous with underside of forewing; cell-dot and postmedian line indicated in grey.

Venezuela: San Esteban, June 1909 (S. M. Klages); type ♂; Cucuta, paratype ♀; both in coll. Tring Museum. A worn ♂ from Fonte Boa, Upper Amazon, June 1910 (S. M. Klages) seems also to belong here.

In some respects similar to *Anisodes nudaria* Guen. (*Spec. Gén. Lép.* ix. 417; Oberth., *Et. Lép.* xii. t. 396. f. 3361), under which name I gather it has stood, with a query, in the Dognin collection. Few structural clues were given for that species, but it would seem to be evidently a true *Anisodes*; in no *Semaepus* could the ♂ hindtibia possibly be described as "naked." The name *vestita* has been adopted, not because of anything exceptional (for this genus) in the clothing, but in contradistinction to *nudaria*.

## 20. *Semaepus vestita asymphora* subsp. nov.

♂ ♀, 33–34 mm. Face blackish. Wings less red than in *v. vestita* Prout (supra), of an almost uniform fawn-colour, without the grey cloudings; postmedian line and generally the median finer; hindwing beneath nearly concolorous with forewing, median line present.

Tinguri, Carabaya, S.E. Peru, 3,400 ft., January 1905, wet season (G. R. Ockenden), type in coll. Tring Museum; August 1904, dry season, 2 ♀♀. Huanacabamba, Cerro de Pasco (E. Boettger), La Oroya, Carabaya, December 1905 (G. R. Ockenden), also in coll. Tring Museum. Yahuarmayo, S. Peru, 1,200 ft., April 1912, in coll. British Museum.

Possibly a separate species—forewing slightly blunter at apex, etc.

As ab. (?) *punctulifera* (spec. div. ?) I describe a rather puzzling form which is also distributed in Peru, with coloration intermediate towards that of *v. vestita*, postmedian line of both wings on the whole with shallower lunules, but these almost obsolete, *black dots at the extremities of the teeth*, on the other hand, developed above and beneath. As the antennal shaft looks slightly thicker, the joints more projecting, the ciliation slightly longer, I suspect this may prove a separate species, but the differences are so intangible that it will require further research to satisfy me I may not have been deceived.

Yahuarmayo, S. Peru, 1,200 ft., April 1912, type in coll. L. B. Prout; Pozuzo, E. Peru, in coll. L. B. Prout; Chaquimayo, S. Peru, in coll. British Museum.

## 21. *Semaepus tergilinea* spec. nov.

♂, 25 mm. Head and body concolorous with wings, face more mixed with rufous, palpus and collar with ochreous. Structure of the *sigillata* group (*Dichromatopodia* Warr.); hindtibia with the inner tuft purple-red. Abdomen with a fine, clear fawn-coloured mediodorsal line, the rest of the dorsal surface rather strongly irrorated.

*Forewing* pale fawn-colour, with minute, rather inconspicuous greyer irroration; a narrow cell-mark, covering the entire length of DC<sup>2+3</sup>, and two almost straight lines free from irroration, slightly tinged with buff; first line from SC before one-third, oblique to hindmargin beyond two-fifths; post-

median just beyond three-fourths, slightly less oblique than termen; a fine dark terminal line, slightly interrupted at the veins, accompanied proximally by an equally fine pale line.—*Hindwing* not bent at  $R^3$ ; first line wanting; cell-mark as on forewing; postmedian line curved parallel with termen.

Underside much paler, markings scarcely indicated, costal margin of forewing slightly reddish, extreme edge more ochreous.

San Esteban, N. Venezuela, June 1909 (S. M. Klages), 3 ♂♂ in coll. Tring Museum. Buenavista, E. Bolivia, 750 m., August 1906—April 1907 (Steinbach). Distinguishable at a glance by its colour and abdominal line.

## 22. *Semaepus* (?) *purpureoplaga* spec. nov.

♂, 30 mm. Face red, above and for a distance down the middle dark brown. Palpus ochreous mixed with red, a dark mark on second joint. Antenna not dentate, ciliation longer than diameter of shaft. Vertex, thorax, and abdomen buff, the collar and pectus, fore- and middle-legs marked with red. Hindtibia moderately long, with hair-pencil, the upperside slightly fringed; tarsus strongly abbreviated.

*Forewing* with costa arched;  $SC^2$  from cell,  $R^2$  not noticeably before middle of DC; buff or pinkish buff, proximally vinaceous buff; lines rather fine, raw sienna or inclining to ochreous, not reaching costa; antemedian indistinct, arising in cell, incurved behind; median excurved beyond cell-dot, incurved and thickened behind; postmedian irregularly lunulate-dentate, forming a moderately strong proximal curve from behind  $R^2$  to behind  $M^2$ ; cell-dot strong, black; some confluent greyish-purple blotches shortly beyond the postmedian, that between the radials small, one between  $R^3$  and  $M^2$  and one from fold to tornus large; terminal line purple, interrupted at the veins.—*Hindwing* with termen little convex, rather recalling the shape of a *Leptoctenopsis*;  $SC^3$  separate; first line wanting; median shade crossing (and thickened around) the cell-mark; postmedian similar to that of forewing; purple blotches smaller and weaker; cell-dot white, slightly elongate, very finely black-edged.

Underside without markings; forewing largely tawny or tawny-ochreous, its distal and hindmargin, with the whole of the hindwing, paler and more pinkish.

"Brazil" (? Amazons). An old specimen in coll. Tring Museum.

The shape and the hindleg more suggest a *Somatina* than a normal *Semaepus*.

## 23. *Trygodes basisignata* spec. nov.

♀, 31 mm. Palpus with second joint reaching well beyond frons, third joint long. Antennal ciliation one-half as long as diameter of shaft. General coloration as in *physciata* Feld. (*Reise Novara, Lep. Hep.* t. 128. f. 8) or *niobe* Druce, occiput spotted with blackish.

*Forewing* with a small, blackish-green spot at extreme base just in front of M, closely followed by two others (in front of and behind base of cell); lines distinct, grey, olive-mixed; antemedian extremely oblique outward subcostally (almost parallel with costa), from SC into cell nearly vertical but slightly dentate, oblique inward to M, nearly straight to hindmargin at two-sevenths; a conglomeration of olive-green central spots, narrowly separated by  $DC^1-R^1$  and by  $DC^{2-3}$ ; anterior spot (between  $SC^3$  and  $DC^1-R^1$ ) wedge-shaped, those



in and outside the cell boot-shaped, the feet pointing in opposite directions (inward between cell-fold and M, outward between  $R^2$  and  $R^3$ ); a rather large roundish spot between  $SM^2$  and base of  $M^2$ ; postmedian and subterminal lines lunulate-dentate, their course nearly as in *niobe* but with the bends exaggerated, the space between them somewhat pale; distal area shaded with reddish grey, especially between the radials and at tornus; some small pale spots at termen itself, well developed at apex; terminal line and fringe as in *niobe*.—*Hindwing* without basal spots and first line; cell-patch recalling that of *physciata*, but more like an animal's head, the neck (between M and  $SM^2$ ) narrower, the anterior part (at SC) broken into short ears.

Underside quite similar to that of *physciata*.

La Oroya, Rio Inambari, S.E. Peru, 3,100 ft., December 1905, wet season (G. R. Ockenden). Type in coll. Tring Museum.

#### 24. *Trygodes viridiplena* spec. nov.

♂ ♀, 42–47 mm. Face light reddish brown, with a variable admixture of darker scales in middle. Palpus with second joint scarcely reaching beyond face, third joint moderate, slightly longer in ♀ than in ♂; reddish above, ochreous-whitish beneath. Vertex mixed with pink, occiput with olivaceous. Antenna in ♂ scarcely dentate, with ciliation little longer than diameter of shaft; in ♀ with ciliation over one-half diameter of shaft. Collar and front of thorax mixed with ochreous and strongly spotted with black; thorax above otherwise vinaceous pink with a slight purple tinge and with sparse and minute black dots; abdomen above more reddish; both beneath more or less ochreous; tufts of coxae and hindtibia variegated, as in the allies.

*Forewing* with the terminal teeth rather strong; fleshy whitish, along the costal margin brighter pink; some slight, irregular dark marks at base; a large green patch in end of cell (quadrate or even more extended longitudinally than transversely), only narrowly separated by DC from a large quadripartite one beyond (extending from  $SC^2$  to  $M^1$ ) and by M from a supplementary spot between base of  $M^1$  and  $M^2$ ; a very large green patch on hindmargin, separated from the last-named only by  $M^2$ , its proximal part reaching nearly to base and entering the cell, its distal boundary rather beyond middle of wing; an olive-brownish postmedian line close beyond the green patches, formed about as in *physciata* Feld.; subterminal line farther from the termen than in any of the other species, deeply lunulate-dentate and irregular, the inward curve between the radials generally deep, always marked with black at the proximal extremities of these lunules and generally of some of the others; a broad (between  $SC^4$  and  $SC^5$  narrowed), strongly dentate-edged band beyond this, the teeth on  $R^1$  and  $R^2$  reaching the termen; pale terminal area very slightly dusted and with the veins brown; terminal line black, thickened between the veins.—*Hindwing* with the green patches in and beyond the cell corresponding to those of the forewing; the hinder patch also large, but prolonged **distally**, its proximal edge curving outward till it reaches  $SM^2$ , along which it runs to near tornus, its distal edge bending abruptly at  $M^2$ , along which it runs for over 3 mm., again bending abruptly to join the proximal (posterior) edge near tornus; a fawn-coloured shade between the green patches and costa; outer part nearly as on forewing, the fawn-coloured shade beyond subterminal line narrower.

Underside with similar but more sombre (dark grey) markings.

San Esteban, N. Venezuela, June—August 1909 (S. M. Klages). 8 ♂♂, 2 ♀♀ in coll. Tring Museum.

A slight modification of this species, with the green patch beyond the cell broken into four separate wedges, is figured by Druce (*Biol. Centr. Amer., Lep. Het.* ii. t. 51. f. 6, 7) from Chiriqui as "*musivaria* H. S."

#### 25. *Trygodes niobe desolata* subsp. nov.

♂ ♀. Rather browner (less pinkish) than *n. niobe* Druce (*Biol. Centr. Amer., Lep. Het.* ii. 106. t. 51. f. 9, 10); all the spots small, **very pale green**.

Venezuela: San Esteban, July 1909 (S. M. Klages), 3 ♂♂, including type; June 1909, 1 ♀; Valencia, 1 ♀. All in coll. Tring Museum.

*T. niobe niobe* is known to me from different localities in Costa Rica and Peru, and will presumably be found in Colombia and Ecuador.

#### 26. *Tricentra allotmeta* spec. nov.

♂ ♀, 19–21 mm. Very close to *T. carnaria* H.-Sch. (*Samml. Aussereur. Schmett.* i. fig. 194 = *laciniata* Warr., *Nov. Zool.* xiv. 223, syn. nov.).

*Forewing* with costal and distal areas more eloued with grey; subterminal yellow line finer, placed a little farther from the termen, the interneural yellow dashes which run in from the termen longer.—*Hindwing* with the yellow line quite differently placed, bending rather sharply at R<sup>1</sup> and thence running straight across the wing to hindmargin 2 mm. from tornus; distal area as on forewing.

Underside with distal area less clear, showing traces of (or even a moderately well developed) pinkish cloud down its centre.

Carabaya, S.E. Peru: Rio Huacamayo, 3,100 ft., June 1904, dry season, type ♂; La Oroya, Rio Inambari, 3,100 ft., November—December 1905, wet season, 2 ♂♂, January 1906, wet season, 1 ♀. All in coll. Tring Museum, collected by G. R. Ockenden.

I do not think this can be a mere aberration of *carnaria*, as there is no sign of intermediates; nor is it likely to be a seasonal form, though the only two La Oroya *carnaria* which I have seen were taken at other periods of the year—September 1904, dry season, and March 1905, wet season.

#### 27. *Tricentra devigescens* spec. nov.

♂, 16 mm. Face light yellowish grey. Vertex and upperside of thorax and abdomen concolorous with wings; underside much paler and more ochreous. Hindtibia with the proximal spur less long than in most species.

*Forewing* light seal-brown, inclining to grey; apical region cream-colour, with slight dark dusting, at costal edge rather more ochreous; the boundary-line between the two colour areas is somewhat lunulate-dentate and runs from before two-thirds costa fairly straight to termen behind M<sup>1</sup>; small white dots on DC<sup>2</sup> and DC<sup>3</sup>; fringe cream-colour, dark-spotted opposite the veins in posterior part.—*Hindwing* with termen slightly sinuate, at least between the radials and at tornus; ground-colour and discal dots as on forewing; no apical patch; a lunulate-dentate cream-coloured submarginal line within 1 mm. of

termen, inbent between the radials and behind  $M^2$ ; fringe dark-spotted throughout.

Underside with distal area of hindwing pale from subterminal line to termen, forewing more as above.

Aroewarwa Creek, Maroewym Valley, Surinam, April 1905 (S. M. Klages). Type in coll. Tring Museum. A second example from La Union, Rio Huacamayo, Carabaya, S.E. Peru, 2,000 ft., November 1904, wet season (G. R. Ockenden), is slightly larger.

## 28. *Tricentra flavifigurata* spec. nov.

♂, 19–20 mm. Face pale straw-colour, spotted with umber; palpus pale beneath. Vertex and thorax and abdomen above vinaceous, mixed with umber; underside straw-colour.

*Forewing* with termen very slightly concave anteriorly to  $M^1$ , here prominent, thence very oblique; vinaceous, here and there with umbreous cloudings, in distal part with some yellow admixture, giving it a vaguely olivaceous tinge; a thick, but not sharply defined, burnt-umber line from beyond one-fourth costa to beyond one-third hindmargin, strongly outbent in middle; an elongate naples-yellow cell-mark, thickening at its posterior end; a dark costal spot just beyond, indicating the commencement of a very weak, dentate line; a dentate yellow subterminal line, commencing at about five-sevenths costa (here accompanied proximally by a slight dark spot), very oblique outward to  $R^1$ , slightly so to  $R^2$ , thence rather close to termen; a strong dark dot on fold proximally to the subterminal line; fringe yellow, with a strong dark dot opposite  $M^1$ .—*Hindwing* with termen faintly waved, very slightly concave between the radials; vinaceous, mixed with umber in proximal half (especially at base), with yellow distally to the subterminal line; a large, complex naples-yellow patch in middle, namely an 8-shaped mark just outside the cell confluent in its posterior half with a large patch in and just behind the distal half of the cell and proximally projecting a little into the anterior half thereof; on this patch stand in places some minute dark irrorations, particularly in the anterior half of the 8-shaped mark; subterminal yellow line more nearly parallel with termen (at nearly 1 mm. distant), rather deeply inbent between the radials.

Forewing beneath somewhat vinaceous, at costa redder, at base and hindmargin pale, cell-mark cream-colour; distal border for 1 or 2 mm. (most broadly at apex, most narrowly in middle) cream-colour, from  $R^1$  to hindmargin separated from ground-colour by a smoky band; a spot on fringe as above. Hindwing beneath mostly cream-colour, a complete smoky band continuing that of forewing.

La Oroya, Rio Inambari, Carabaya, S.E. Peru, 3,100 ft., November–December 1905, wet season (G. R. Ockenden). Type in coll. Tring Museum. Also from Rio Huacamayo, Carabaya, 3,100 ft., June 1904, dry season.

## 29. *Tricentra citrinaria* griseescens subsp. nov.

Both wings with the dark parts of an almost uniform grey, with a slight purplish tinge, the hindwing entirely without the rufous shades of *c. citrinaria* Warr. (Nov. Zool. xiv. 222). The yellow submarginal band on both wings is broad and pale, sharply defined, though on the hindwing the grey ground-colour is slightly mixed with yellow between the middle and this band.

Fonte Boa, Upper Amazon, May 1906 (S. M. Klages); type ♂ and another in coll. Tring Museum. St. Jean de Maroni, French Guiana, July; a ♂ in coll. L. B. Prout.

### 30. *Ptychopoda combinata* spec. nov.

♂ ♀, 20–26 mm. Face red-brown, mixed (except below) with blackish. Palpus ochreous, on outer side mixed with red-brown and black. Crown creamy white, narrowly edged behind with black. Antennal shaft ochreous, the first few joints white; ciliation even, scarcely longer than diameter of shaft. Collar orange. Front of thorax vinaceous, mixed with orange-buff; thorax and abdomen otherwise concolorous with wings, the abdomen with two or three blackish medio-dorsal spots, on the middle segments. Hindtibia in ♂ relatively long, dilated, with long hair-pencil from base; tarsus strongly abbreviated.

*Forewing* with areole rather small, all the subcostals well- or long-stalked from its apex; dirty white, with salmon-buff and sparse vinaceous and black irroration; costal edge narrowly orange-buff; markings salmon-buff, almost entirely overlaid with black, consisting of large spots much as in *Pt. complexaria* Schaus (*Tr. Amer. Ent. Soc.* xxvii. 257); antemedian spot in cell rather small, that behind it large, somewhat crescentic, but broad, its convex side turned towards the base, that at hindmargin small, oblique; median series similar, but the first two larger, the one in (at end of) cell posteriorly confluent with a narrower extracellular mark, behind which (at base of  $R^3-M^1$  and between the medians) stand two small lunules; postmedian formed about as in *complexaria*, with rather marked proximal thickening between the radials and between  $M^2$  and  $SM^2$ , slighter thickening between  $R^2$  and  $M^1$  and a thick dot or dash at hindmargin; beyond (leaving free a rather thick, sinuous pale line) stands an irregular row of elongate interneural dark marks between  $R^1$  and hindmargin, the first two and last three wedge-shaped, those between  $R^3$  and  $M^2$  larger and broader; subterminal line zigzag, white, rather thick, bounded proximally by these spots; a rather thick lavender line at termen; fringe pinkish proximally, yellow distally.—*Hindwing* ample, with termen evenly rounded;  $SC^2-R^1$  quite shortly stalked; to beyond the postmedian line white, with rather sparse irroration, distally more buff, with strong irroration; a minute but distinct cell-dot; lines very fine and indistinct, shaped as in *fervens* Butl. (*Tr. Ent. Soc. Lond.* 1881, p. 340); subterminal line weak and interrupted anteriorly; terminal and fringe as on forewing.

Underside whitish, with more or less strongly ochreous veins, costal and distal margins and fringes, the costal margin of forewing rather broad, more reddish proximally; forewing with the spots showing through in grey and with the anterior part of an ochreous postmedian line.

Surinam: Aroewarwa Creek, Maroewym Valley, July 1905 (type), March and April 1905 (S. M. Klages); French Guiana: St. Jean de Maroni; Upper Amazon: Fonte Boa, May and July 1906, Codajas, April 1906 (S. M. Klages); all in coll. Tring Museum.

Strongly recalls *complexaria* Schaus, in which, however, the termen of the hindwing is irregularly bent, whereas in the present species it is at least as regular as in *fervens* Butl.



31. *Ptychopoda xanthodeta* spec. nov.

♂, 18 mm. Face dull red. Palpus slender, with terminal joint distinct, not minute; blackened on outer side. Crown yellow, irrorated with red. Antennal shaft partly darkened; ciliation very long. Thorax above deep yellow; abdomen above slightly paler; underside still paler. Foreleg long, femur and tibia blackened on inner side; hindtibia slightly shorter than femur, somewhat thickened, with hair-pencil, tarsus very slender, as long as tibia.

*Forewing* rather broad, costa gently arched distally, apex round-pointed, termen oblique, straight anteriorly, then slightly curved; areole long, SC<sup>1</sup> arising before its end; white, with yellow irroration; costal margin as far as SC mostly liver-coloured, but rather irregularly, with the extreme edge darkened; basal region mostly yellow; lines thick, yellow, very ill-defined, the postmedian and two subterminals less so; postmedian and proximal subterminal parallel, incurved between the radials, dentate outward on R<sup>2</sup> and M<sup>1</sup>, slightly interrupted just behind M<sup>1</sup>; distal subterminal close to termen, almost touching it in places, less thick than the others, becoming thinner posteriorly; fringe mixed with yellow, especially anteriorly.—*Hindwing* with termen very slightly concave between the radials, otherwise fairly regular; as forewing, or slightly clearer, costal margin concolorous.

Forewing beneath with slight reddish-smoky suffusions anteriorly, especially in cell, whitish posteriorly; two weak, ill-defined, rather thick darker lines indicated in distal area between costal margin and M<sup>1</sup>. Hindwing beneath whitish, unmarked.

San Antonio, W. Colombia, 5,800 ft., December 1907 (M. G. Palmer). Type in coll. L. B. Prout.

32. *Ptychopoda callipepla* spec. nov.

♂ ♀, 12–13 mm. Face and upperside of palpus purplish. Vertex and base of antenna more rosy; antennal joints in ♂ slightly projecting, the ciliation very long and fine. Thorax in front cadmium yellow, behind rosy; abdomen above rosy, mixed with dark plum-colour, sometimes wholly overlaid with the latter shade; anal extremity yellow; underside paler.

*Forewing* with SC<sup>1</sup> arising before apex of areole, M<sup>1</sup> generally stalked; yellow, with a spot of deeper yellow at base; a subbasal pink fascia, more or less strongly overlaid, except at its edges, with dark plum-colour; a large, round-oval subapical patch extending from costa to M<sup>2</sup>, its central part blackish, mixed with iridescent blue and slightly with pink (producing a general effect of dark plum-purple), its circumference geranium pink, the proportion of the two colours variable.—*Hindwing* rather narrow and elongate, SC<sup>2</sup> and M<sup>1</sup> both stalked; a moderately broad yellow distal border, slightly broadest at apex and extending some distance along costa; the rest of the wing dark plum-purple, bordered distally (to a variable width, correlated to the coloration of the forewing) with geranium pink.

Underside similar, though slightly paler.

Jamaica, August 1898 (W. J. Kaye), type ♂, and Moncague, January 20, 1905 (Lord Walsingham), paratype ♀, both in coll. British Museum. Also 2 ♀♀, merely labelled "Jamaica," in coll. Tring Museum.

33. *Cyllopoda gibbifrons* spec. nov.

♂, 32 mm.; ♀, 37–39 mm. Face (especially in the ♂) even more strongly protuberant than in *postica* Walk. (*List. Lep. Ins.* ii. 371); black above, becoming pale below. Orbital rim white, mixed with a few yellow scales. Palpus the same, with third joint and part of upperside of second joint blackish; rather short, with third joint rather small. Antennal pectinations much shorter than in *postica*—less than twice diameter of shaft. Crown black. Thorax and abdomen above black; tegula with a yellow spot in front. Breast white, mixed with yellow. Abdomen yellow on side, white beneath. Legs predominantly grey to blackish; hindleg in ♂ whitish, the tibia with a pair of very short, very thick terminal spurs, tarsus at least half as long as tibia.

*Forewing* with areole double; bright gamboge-yellow; the black costal border in ♂ 1.5 mm. broad, in ♀ 2 mm.; in addition, a few scattered black scales behind this and nearly always a blackening of vein M; the usual black distal region and enclosed yellow spot, the latter quite narrow at C, widening rather rapidly, entering the cell, but not deeply, ending at M<sup>2</sup>; apical fringe white.

—*Hindwing* with the black border in both sexes on an average a little wider than in *postica*, narrowing rather suddenly at tornus.

Underside similar, the distal border of the hindwing in ♂ slightly narrowed.

Venezuela: Suapure, March 1, 1899, type ♂, February–March 1899, 7 ♀♀ (S. M. Klages); Maipures, Orinoco, December 1898, 1♂ (Cherrie). All in coll. Tring Museum.

In *postica* Walk., apart from the above-mentioned distinctions, the black distal border of the forewing bends obliquely inward at hindmargin, which is not, or scarcely, the case in *gibbifrons*. Like *postica* Walk., *latiflava* Warr. (Nov. Zool. xii. 312), and a few others, this species is intermediate between true *Cyllopoda* and *Flavinia*\*, agreeing with the former in the double areole, with the latter in the less elongate palpus. Perhaps all form a single genus; compare variability of areole in the following species.

34. *Cyllopoda expansifascia* spec. nov.

♂, 39 mm. Similar to *latiflava* Warr. (Nov. Zool. xii. 312). Palpus, as in that species, with third joint rather short. Antennal pectinations shorter than in *latiflava*—scarcely twice diameter of shaft. Hindtibia with strong ochreous tufts. Abdomen beneath yellowish white.

*Forewing* with areole generally double; coloration as in *latiflava*; the black posterior border proximally reaching, distally just crossing SM<sup>2</sup>; the yellow proximal patch less triangular than in *latiflava*, its distal border more oblique, rounded rather than angled where it meets the costal border at SC, rounded also at its outer end (between M and SM<sup>2</sup>); the transverse black band in consequence expanding strongly, though gradually, anteriorly and rather abruptly posteriorly; distal yellow patch moderately broad.—*Hindwing* with the black distal border slightly broader than in *latiflava*, above extending a little way along costal margin, beneath running narrowly along this margin halfway to base; abdominal margin above and beneath narrowly black in distal half

\* *Flavinia* Walk., *List. Lep. Ins.* ii. 369 (1854), = *Atryia* (Hb. Zutr. ii. 31, indescr.) H.-Sch., *Samml. Aussercur. Schmett.* i. 19 (1856).

(in *latiflava* only the fringe is here blackened); SC usually blackened at base, at least beneath.

Bolivia: Charaplaya, 65° W. long., 16° S. lat., 1,300 m., June 1901 (Simons). Type in coll. Tring Museum. Also from Peru: San Remon, 3,000 ft., June—August 1903; Rio Colorado, 2,500 ft., July—August 1903 (Watkins and Tomlinson), in coll. British Museum et coll. Joicey.

In two San Remon examples the areole is broad, undivided. *C. brevipilaga* Dogn. (*Ann. Soc. Ent. Belg.* 1. 108), if I have rightly determined a ♂ from Charape, N. Peru (in it I should not call the black border of hindwing "broad"), has the proximal yellow patch of forewing shorter and not entering the cell, SC of hindwing not blackened at base, antennal pectinations rather less short and stout (areole double).

### 35. *Cyllopoda nigrivena* spec. nov.

♀, 39–42 mm. Face black. Palpus with second joint reaching about to frons, third joint moderate, rather robust; black, first joint beneath whitish. Cheek white. Vertex black. Thorax and abdomen mostly black or blackish; tegula with a yellow line or narrow streak from base; pectus marked with yellow; abdomen with a yellow lateral stripe.

*Forewing* moderately broad, with apex moderately rounded; areole double; yellow, with rather broad black borders and black band from tornus to midcosta; vein M black.—*Hindwing* with moderately broad costal and distal borders and a narrower, proximally tapering abdominal border, which does not reach the base.

Underside similar; posterior border of forewing grey rather than black, median vein only *dusted* with black; the extreme costal margin of hindwing from base to middle usually yellow.

Brazil: Novo Friburgo, type; "Tipuea" (? Tijuea). In coll. Tring Museum.

I at first took this for an aberration of *dubia* Sehaus (*Proc. Zool. Soc. Lond.* 1892, p. 286), but that has the areole single; moreover, the costal yellow edge of hindwing beneath is much reduced or wanting and the palpus appears somewhat stouter.

## SUBFAM. LARENTIINAE.

### 36. *Eois hyriaria* (Warr.).

*Psilocambogia hyriaria* Warr., *Nov. Zool.* i. 396 (1894).

As often occurs in Warren's earlier work, the type-specimen is not indicated in the published account. The type label, however, is affixed to the ♀, and as this alone bears a locality label (St. George's [? British Guiana], November 1891, C. W. Ellacombe), this is the best selection. According to Warren's manuscript, the species sinks to *contractata* Walk. (*List. Lep. Ins.* xxii. 671), from the Amazons. I have not yet made a critical comparison, but see nothing against the union.

The generic name *Eois* Hb. belongs to the few South American species of the *Cumbogia* group with non-pectinate ♂ antenna; should the distinction, as I fear, prove to be subgeneric only, Guenée's well-known name of *Cambogia* will have to sink.